



Australian Government

AUMATR001 Repair vehicle electrical faults in assembled vehicles

Release: 1

AUMATR001 Repair vehicle electrical faults in assembled vehicles

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMATR3001 Rectify electrical faults on assembled vehicles

Application

This unit describes the performance outcomes required to repair electrical faults in assembled vehicles, based on recommendations from inspection reports.

It applies to those in an automotive manufacturing environment and involves the application of skills and knowledge at a specialist technician level.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Competency Field

Common

Unit Sector

Technical - Electrical

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section
1. Plan and prepare	1.1 <i>Workplace instructions</i> are identified and used to determine <i>job requirements</i> 1.2 Repair procedures and fault inspection reports are sourced and interpreted 1.3 Repair and replacement materials are identified, obtained and prepared according to inspection reports

Elements	Performance Criteria
	1.4 Tools and equipment are identified for rectification of electrical faults
2. Diagnose and rectify electrical faults	2.1 Faults are located and diagnosed, and corrective repairs are planned 2.2 Rectification activities are carried out according to vehicle specifications and workplace procedures 2.3 Faults are re-diagnosed to ensure their elimination
3. Complete work processes	3.1 Repair documentation is completed according to workplace procedures 3.2 Final inspection is made to ensure work is to workplace quality standards 3.3 Tools and equipment are cleaned, checked, maintained and stored, and work area is cleaned, according to workplace procedures 3.4 Faulty tools and equipment are identified, tagged and reported to supervisor 3.5 Work area is cleaned, and materials disposed of, reused or recycled according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	- interpret work instructions, work health and safety (WHS) requirements and workplace procedures - interpret inspection reports and vehicle specifications.
Writing skills to:	- complete repair documentation - complete faulty equipment tags - prepare a repair plan.
Oral communication skills to:	- communicate electrical faults with co-workers - use automotive terminology relevant to the job.
Numeracy skills to:	- identify vehicle specifications and part numbers of replacement parts - identify component faults from inspection reports and test measurements.
Digital literacy skills to:	use digital electrical testing and measuring equipment

	• use workplace computer systems.
Problem-solving skills to:	• interpret inspection reports • identify vehicle electrical faults • apply repair procedures to electrical faults.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Workplace instructions</i> must include:	• operator instruction sheets (OIS) or workplace equivalent • process control plans (PCPs) or workplace equivalent • standard operation procedures (SOPs) or workplace equivalent • testing and repair techniques • vehicle specifications and drawings.
<i>Job requirements</i> must include:	• circuit testing and repair methods • correct use of tools and equipment • identification of electrical faults • methods to remove and replace electrical units.
<i>Tools and equipment</i> must include:	• hand tools • electrical testing equipment • multimeters • test lamps.
<i>Workplace procedures</i> must include:	• pre- and post-use inspection of equipment • recording and reporting • test equipment operating instructions • WHS requirements relating to rectifying electrical faults.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

Assessment Requirements for AUMATR001 Repair vehicle electrical faults in assembled vehicles

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Performance Evidence

Before competency can be determined, individuals must have competently repaired electrical faults in assembled vehicles on a minimum of three occasions.

Individuals must demonstrate they can:

- locate, interpret and apply repair information and vehicle electrical specifications
- comply with workplace procedures and work health and safety (WHS) requirements relating to repairing electrical faults in assembled vehicles
- use electrical repair tools and equipment
- communicate electrical faults and rectification requirements to co-workers
- diagnose, rectify and reassemble electrical system faults to specifications on three of the following:
 - vehicle fails to crank
 - lighting system malfunction
 - instrumentation malfunction
 - heating, ventilation and air conditioning (HVAC) system malfunction
 - diagnostic fault code present
 - engine check light on
- conduct vehicle electrical system testing and inspection
- complete workplace repair documentation and test results.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- WHS requirements relating to repairing electrical faults in assembled vehicles
- workplace procedures relating to repairing electrical faults in assembled vehicles
- workplace quality standards relating to rectifying electrical faults
- manufacturing and production techniques for locating and rectifying electrical faults in assembled vehicles

- common assembly and electrical system faults
- types and use of tools and equipment used when locating and rectifying electrical faults in assembled vehicles
- electrical system testing equipment and techniques
- vehicle electrical components and system specifications.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicles that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive manufacturing workplace or simulated workplace
- vehicle electrical system specifications
- inspection reports relating to repairing electrical faults in assembled vehicles
- electrical repair tools and equipment
- electrical test equipment
- vehicles or components with defects
- repair instructions relating to electrical faults in assembled vehicles
- repair quality procedures relating to electrical faults in assembled vehicles
- workplace procedures to rectify electrical faults
- work sheets and repair documentation relating to electrical faults in assembled vehicles.

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